



7/015/062  
**ECDC**  
ENVIRONMENTAL L.C.

AN ALLIED WASTE COMPANY



March 31, 2000

Wayne Hedberg, Permit Supervisor  
Department of Natural Resources  
Division of Oil, Gas and Mining  
1594 West North Temple, Suite 1210  
Salt Lake City, Utah 84114-5801

Re: ECDC Clay Mine (M/015/062) Request to Letter Dated January 18, 2000

Dear Mr. Hedberg:

ECDC has compiled the information you requested in the above mentioned letter. Hopefully the enclosed information satisfies the divisions requirements for ECDC's large mining operation. If you have any questions please call me at 435-888-4418 x 22.

Sincerely,

Darin Olson  
ECDC Environmental Manager

*Information  
put in mine plan*

**RECEIVED**

APR 03 2000

DIVISION OF  
OIL, GAS AND MINING





**Revisions  
To the  
Review of Notice of Intention  
To Commence Large Mining Operations**

ECDC Environmental  
ECDC Clay Mine  
M/015/062

January 18, 2000

**RECEIVED**

APR 03 2000

DIVISION OF  
OIL, GAS AND MINING

The following is the list of comments by the Division of Oil, Gas, and Mining after the review of the Notice of Intention submitted to the Division on October 22, 1999. Immediately below each DOGM comment is the response or modification made by ECDC.

**R647-4-106- Operation Plan**

***106.6 Plan for protecting & redepositing soils***

Please show the location of topsoil and overburden stockpiles on the map. Also, seed mix C, which is to be used on the stockpiles, could be reduced by half and still provide adequate seed for establishing a protective vegetative cover (please refer to the attached seed mix B for suggested revision to your interim seed mix). (LK)

**Response:**

*A new map is submitted to be incorporated into the Mining Plan. It reflects the location of Top Soil piles and locations of Overburden piles. Seed mix B has been incorporated into the Mining Plan replacing the existing seed mix B. See new table for seed mixtures.*

***106.8 Depth to groundwater, extent of overburden, geology***

The plan fails to identify any wells or groundwater sources in the area. Please verify if any ground water exists in the area or if any wells have been drilled in the vicinity of the mine. TM

**Response:**

*There are no wells or groundwater sources in the area of the ECDC mining operation. The Price River borders the mining operation on the west. However the mining of the clay seam is several feet above the flood plane. The flood plane itself has remained dry between storm events and has not shown evidence of ground water seepage.*

***106.9 Location & size of ore, waste, tailings, ponds***

Location of soil and overburden piles need to be shown on maps. Because no storage areas were noted, reclamation costs are higher than normal in

the surety calculations. Final reclamation costs could be decreased by having multiple storage areas, if this is possible. DJ

**Response**

*A new map is submitted to be incorporated into the mining plan. This map reflects the location of soil and overburden piles within the project area.*

**R647-4-107- Operation Practices**

***107.2 Drainages to minimize damage***

The relocation of the drainage channel entering the site from the Northwest needs to be addressed in the mine and reclamation plan. This information should include cross-sections of the existing drainage and the reclaimed drainage configuration and information of how this drainage channel will be handled both during operations and during reclamation. DJ & TM

**Response**

*ECDC has evaluated the area to the west of and the area within the drainage channel since the submittal of the Revision to the NOI. It has been determined that there is not sufficient product within these areas to justify mining. Therefore the drainage in question will not be disturbed. The south side of the drainage will be bordered by disturbed area. This is reflected on a revised Disturbance Map showing a revised disturbed area, and a revised Reclamation Treatments Map showing a revised area to be reclaimed.*

***107.3 Erosion control & sediment control***

There currently is no mention of sediment control in the permit application. Given the proximity to the Price River, it is appropriate that the issue of control of Storm Water be discussed in regards to how it will be handled both during both operations and upon reclamation. TM

**Response**

*During mining operations, drainage on the Disturbed area will be contained within the disturbed area. The use of an earthen berm on the east side of the area along with the sloping of grade to drain all water to the center of the mined area will cause any storm water to congregate on disturbed property. A new Drainage Map is incorporated to these revisions reflecting drainage direction. The use of straw bales at the east end of the natural drainage will help in gathering any sediment lost on the south side of the project. Included is a detail drawing reflecting the installation of straw bales.*

*At reclamation, silt fences will be installed on the east side of the project, thus controlling any sediment that may be caused by a storm event. The straw bales within the natural drainage channel will remain in place controlling any runoff from the west side of the reclaimed area.*

## **R647-4-109 Impact Assessment**

### ***109.1 Impacts to surface & ground systems***

It is appropriate that a discussion of the potential impacts to surface and ground water be engaged given the proximity to the Price River. TM

#### **Response**

*Although the mining limits are in close proximity to the Price River, There should negligible impact on both surface and ground water. Any surface water within the mining limits will be contained within those limits. This will be accomplished as discussed in the response to 107.3. Because of the nature of the mining cycle, a layer of clay material will be left on the surface, not allowing any surface water to seep into the ground water system.*

*Ground water information is not readily available within the mining area. However, there are two benches between the Price River and the mine. The first bench is a flood plane approximately 5 to 6 feet above the level of the river. There are no signs of ground water surfacing on this plane. The second bench would be the floor of the mining limits. This plane is approximately 8 feet above the flood plane. ECDC feels that the ground water limits are well below the mining floor and mining would not have any impact.*

## **R647-4-110 Reclamation Plan**

### ***110.2 Roads, Highwalls, slopes, drainages, pits, etc., reclaimed***

Due to the difficulties of placing soil at a depth 3" to 4", the plan could be revised to create soul islands at greater depths. This will reduce bonding amounts for topsoil replacement. DJ

The original reclamation plan (March, 1993) called for "all quarry pits to be backfilled and graded with stockpiled overburden." The October, 1999 plan delineates an area noted as "bottomland area", which is to receive no treatments (soil or overburden). This is a change from this original plan which will require ECDC to apply for a variance. Our surety calculations reflect reclamation of the entire site. DJ

#### **Response**

*Due to the lack of topsoil, ECDC will place topsoil in 10" to 12" lifts on selected "islands" of recontoured disturbance rather than an overall covering of topsoil 3" to 4" deep.*

*All quarry pits will be backfilled and graded with stockpiled overburden. Exhibit IV, The Reclamation Treatments Map, reflects final contours.*

#### **110.5 Revegetation planting program**

The proposed seed mixes should be revised to eliminate some species that would be difficult to establish in the area, and to reduce the rates of most species, including some very competitive species. This would result in a more diverse vegetation community after reclamation. Also, it is suggested that only one seed mix be used for final reclamation.

Experience has shown that for small sites such as this one, multiple seed mixes are difficult to manage and apply to the designated areas. Attached are revised seed mixes for your consideration. Please acknowledge if these revisions are acceptable. LK

#### **Response**

*Final revegetation will be accomplished using one seed mixture. Seed Mixture A, as reflected on the revised table, will be used for overall revegetation of reclaimed areas. Seed Mixture B is a interim mix to be used for seeding of topsoil piles.*

### **R647-4-111 Reclamation Practices**

#### **111.2 Reclamation of Natural Channels**

Refer to comments under R647-4-107.2 DJ & TM

#### **Response**

*As stated in the response to R647-4-107.2, the drainage in question will not be disturbed. The south side of the drainage will be bordered by disturbed area. This is reflected on the attached revised Disturbance map and Reclamation Treatments map.*

#### **111.3 Erosion and sediment control**

How will sediment and disturbed area runoff be prevented from leaving the site during extreme rainfall events? TM

#### **Response**

*As stated in the response to R647-4-107.3, the use of an earthen berm on the east side of the mining operation along with the use of straw bales within the natural drainage, and the intentional sloping of the mining floor towards the center of the operation will help eliminate any runoff from leaving the mine site.*

#### **111.12 Topsoil redistribution**

Placing topsoil in 3" to 4" lifts will be very difficult and costly. Placing soil in 10" to 12" lifts on selected "islands" of recontoured disturbance could possibly provide a more cost effective option and lead to more effective long-term revegetation success. DJ

#### **Response**

*As stated in the response to R647-4-110.2, ECDC will place topsoil in 10" to 12" lifts on selected "islands" of recontoured disturbance rather than an overall covering 3" to 4" deep.*

### **R647-4-113 Surety**

#### **Comments on Surety Calculations:**

Due to the size of the site, using only a D9 dozer may not be a cost effective tool. Spreading soils in 3" to 4" lifts will be extremely difficult. See comments under R647-4-111.12 DJ

#### **Response**

*ECDC will use islands of topsoil instead of overall coverage of 3" to 4". Included to the list of equipment used for reclamation will be one rubber tired loader.*

#### **Line 27**

Mining the remaining site with an average overburden depth of 5' will generate app. 142,000 cu. yds. of material. This does not take into account the overburden piles that already exist at the site. Recontouring these waste piles will be necessary after material needed for reclamation is removed.

#### **Response**

*As reflected in the revised Reclamation Treatments map, most all overburden will be redistributed to recontour and reclaim the mine site. However if there is excess of material, it will be recontoured and shaped to present a "natural" surface within the reclaimed area.*

#### **Line 30 & 32**

Takes into account the ripping of the entire 29.6 acres site.

#### **Response**

*As stated in the Notice of Intention to Revise Mining Operations, Reclamation Plan (Rule R647-4-110) No. 3(d), "The surface is not expected to be heavily compacted, but if it is compacted following placement of overburden material, it will be ripped to a depth of a least 6 inches prior to placement of any topsoil material." Although the roadways will be ripped as directed within the NOI, there will be little compaction on the reclaimed mine site (disturbed area).*

#### **Line 39**

Replacement of drainage removed during mining

#### **Response**

*Natural drainage will remain since mining activities will not disturb it. The eastern bank of the natural drainage will see some reclamation with appropriate recontouring and seeding.*



## INSTRUCTION PAGE

*Notes: Insertion instruction for revisions and additions*

- Replace** - "Seed Mixture A" (page 5) with **Seed Mixture A**  
**Revised 3/15/00**
- Replace** - "Seed Mixture B and Seed Mixture C" (page 6) with  
**Seed Mixture B -Revised March 15,2000**
- Replace** - "Exhibit II" dated October 1, 1999 with **Exhibit II**  
**Revised 3/15/00**
- Replace** - "Exhibit III" dated 10/11/99 with **Exhibit III**  
**Revised 3/15/00**
- Replace** - "Exhibit IV" dated 10/11/99 with **Exhibit IV**  
**Revised 3/15/00**
- Replace** - "Table of Contents" with revised "Table of Contents" re-  
flecting new **Exhibit V and Exhibit VI**
- Replace** - Attachment "A" dated October 4, 1999 with the revised  
**Attachment "A" dated January 18, 2000**
- Add** - "Exhibit V" Stock Pile and Overburden Map - dated 3/15/00
- Add** - "Exhibit VI" Mine Drainage Map – dated 3/15/00
- Eliminate**- Any reference, drawing, or photograph in regard to  
"Bottomlands"



**Line 40**

Yardage to cover 29.6 acres with 1' of overburden.

**Response**

*Area to cover has been changed to 22.2 acres as reflected on Exhibit III, Clay Mine Site Disturbance map. Overburden will cover all the disturbed area to recontour as reflected on Exhibit IV, Reclamation Treatments Map.*

**Line 41**

Placing 3" to 4" of soil over 17.8 acres

**Response**

*ECDC will place 10" to 12" lifts of topsoil in selected "islands" throughout the area to be reclaimed.*

**Line 47**

Due to poor and/or non-existent soils in this area, amendments will be necessary. This cost is calculated using composted manure. Biosolids from the Wellington site may be a cheaper option. Hydromulch with 60 lbs of tackifier, 200 lbs of fertilizer and virgin wool fiber/acre (as used on the Pagano Site may also be an option for this site. DJ

**Response**

*As stated in the Notice of Intention to Revise Mining Operations, Reclamation Plan (Rule R647-4-110) No.3(g), "Soil sampling will be done once the seedbed is ready to be seeded."*

*ECDC will investigate Biosolids from Wellington along with evaluating the use of other fertilizers after final testing and sampling is completed. Amendments to the NOI will be made at that time allowing for the best application needed for reclamation.*